

**CLAIMS:**

What is claimed:

1. A method for providing features in a logical volume  
5 management system, comprising:
  - loading a set of feature plug-in modules;
  - selecting a first plurality of feature plug-in  
modules from the set of feature plug-in modules;
  - ordering the first plurality of feature plug-in  
10 modules; and
    - applying the first plurality of feature plug-in  
modules to a first volume.
2. The method of claim 1, wherein the first volume  
15 comprises at least one aggregate and wherein the step of  
selecting the first plurality of feature plug-in modules  
comprises:
  - receiving logical volume manager data associated  
with the at least one aggregate; and
  - 20 selecting the first plurality of feature plug-in  
modules based on the logical volume manager data  
associated with the at least one aggregate.
3. The method of claim 2, wherein the aggregate  
25 comprises at least one partition and wherein the step of  
selecting the first plurality of feature plug-in modules  
further comprises:
  - receiving logical volume manager data associated  
with the at least one partition; and
  - 30 selecting the first plurality of feature plug-in  
modules based on the logical volume manager data  
associated with the at least one partition.

4. The method of claim 1, wherein the first volume comprises at least one partition and wherein the step of selecting the first plurality of feature plug-in modules  
5 comprises:

receiving logical volume manager data associated with the at least one partition; and

selecting the first plurality of feature plug-in modules based on the logical volume manager data  
10 associated with the at least one partition.

5. The method of claim 1, wherein the step of selecting the first plurality of feature plug-in modules comprises:

receiving a selection of feature plug-in modules by  
15 a user; and

selecting the first plurality of feature plug-in modules based on the selection.

6. The method of claim 1, wherein the step of ordering  
20 the first plurality of feature plug-in modules comprises:

receiving classification information corresponding to the first plurality of feature plug-in modules, the classification information indicating a class for each feature plug-in module in the first plurality of feature  
25 plug-in modules; and

ordering the first plurality of feature plug-in modules based on the classification information.

7. The method of claim 6, wherein the class for each  
30 feature plug-in module in the first plurality of feature plug-in modules comprises one of partition, volume, and aggregate.

8. The method of claim 6, wherein at least two feature plug-in modules in the first plurality of feature plug-in modules are in the same class and wherein the step of  
5 ordering the first plurality of feature plug-in modules further comprises:

receiving ordering attribute information  
corresponding to the first plurality of feature plug-in modules, the ordering attribute information indicating an  
10 attribute for each class it belongs to; and

ordering the first plurality of feature plug-in modules based on the ordering attribute information.

9. The method of claim 8, wherein the attribute for  
15 each of the at least two feature plug-in modules in the first plurality of feature plug-in modules comprises one of global exclusive, top exclusive, bottom exclusive, class exclusive, and a weight factor.

20 10. The method of claim 6, wherein at least two feature plug-in modules in the first plurality of feature plug-in modules are in the same class and wherein the step of ordering the first plurality of feature plug-in modules further comprises:

25 receiving order selection information from a user;  
and

ordering the first plurality of feature plug-in modules based on the order selection information.

30 11. The method of claim 1, wherein the first plurality of feature plug-in modules form a feature stack.

12. The method of claim 1, further comprising:  
selecting a second plurality of feature plug-in  
modules from the set of feature plug-in modules;  
ordering the second plurality of feature plug-in  
5 modules; and  
applying the second plurality of feature plug-in  
modules to a second volume.
13. The method of claim 12, wherein at least one feature  
10 plug-in module in the second plurality of feature plug-in  
modules is not in the first plurality of feature plug-in  
modules.
14. The method of claim 12, wherein the first plurality  
15 of feature plug-in modules and the second plurality of  
feature plug-in modules are ordered differently.
15. A method for providing features in a logical volume  
management system, comprising:  
20 loading at least one feature plug-in module; and  
applying the at least one feature plug-in module to  
a volume.
16. The method of claim 15, further comprising:  
25 receiving a call through an application program  
interface; and  
performing an action on the volume using the at  
least one feature plug-in module in response to the call.
- 30 17. An apparatus for providing features in a logical  
volume management system, comprising:

loading means for loading a set of feature plug-in modules;

selection means for selecting a plurality of feature plug-in modules from the set of feature plug-in modules;

5        ordering means for ordering the plurality of feature plug-in modules; and

application means for applying the plurality of feature plug-in modules to a volume.

10    18. The apparatus of claim 17, wherein the volume comprises at least one aggregate and wherein the selection means comprises:

means for receiving logical volume manager data associated with the at least one aggregate; and

15        means for selecting the plurality of feature plug-in modules based on the logical volume manager data associated with the at least one aggregate.

20    19. The apparatus of claim 18, wherein the aggregate comprises at least one partition and wherein the selection means further comprises:

means for receiving logical volume manager data associated with the at least one partition; and

25        means for selecting the plurality of feature plug-in modules based on the logical volume manager data associated with the at least one partition.

30    20. The apparatus of claim 17, wherein the volume comprises at least one partition and wherein the selection means comprises:

means for receiving logical volume manager data associated with the at least one partition; and

means for selecting the plurality of feature plug-in modules based on the logical volume manager data associated with the at least one partition.

- 5    21. The apparatus of claim 17, wherein the selection means comprises:

means for receiving a selection of a plurality of feature plug-in modules by a user; and

- 10    means for selecting the plurality of feature plug-in modules based on the selection.

22. The apparatus of claim 17, wherein the ordering means comprises:

- 15    means for receiving classification information corresponding to the plurality of feature plug-in modules, the classification information indicating a class for each feature plug-in module in the plurality of feature plug-in modules; and

- 20    means for ordering the plurality of feature plug-in modules based on the classification information.

23. The apparatus of claim 22, wherein the class for each of the feature plug-in modules in the plurality of feature plug-in modules comprises one of partition, volume, and aggregate.
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24. The apparatus of claim 22, wherein at least two feature plug-in modules in the plurality of feature plug-in modules are in the same class and wherein the ordering means further comprises:
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means for receiving ordering attribute information corresponding to the plurality of feature plug-in

modules, the ordering attribute information indicating an attribute for each class it belongs to; and

means for ordering the plurality of feature plug-in modules based on the ordering attribute information.

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25. The apparatus of claim 24, wherein the attribute for each of the at least two feature plug-in modules in the plurality of feature plug-in modules comprises one of global exclusive, top exclusive, bottom exclusive, class exclusive, and a weight factor.

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26. The apparatus of claim 22, wherein at least two feature plug-in modules in the plurality of feature plug-in modules are in the same class and wherein the ordering means further comprises:

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means for receiving order selection information from a user; and

means for ordering the plurality of feature plug-in modules based on the order selection information.

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27. The apparatus of claim 17, wherein the plurality of feature plug-in modules form a feature stack.

28. An apparatus for providing features in a logical volume management system, comprising:

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loading means for loading at least one feature plug-in module; and

application means for applying the at least one feature plug-in module to a volume.

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29. The apparatus of claim 28, further comprising:

means for receiving a call through an application program interface; and

means for performing an action on the volume using the at least one feature plug-in module in response to  
5 the call.

30. A computer program product, in a computer readable medium, for providing features in a logical volume management system, comprising:

10 instructions for loading a set of feature plug-in modules;

instructions for selecting a plurality of feature plug-in modules from the set of feature plug-in modules;

15 instructions for ordering the plurality of feature plug-in modules; and

instructions for applying the plurality of feature plug-in modules to a volume.

31. A computer program product, in a computer readable  
20 medium, for providing features in a logical volume management system, comprising:

instructions for loading at least one feature plug-in module; and

25 instructions for applying the at least one feature plug-in module to a volume.